VELOMAT

MESSELEKTRONIK GmbH

Digital load monitoring
VMV-0043

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The VMV-0043 limit value switch is a measuring amplifier with an integrated relay. The relay has two pairs of changeover contacts.

The signal from the connected sensor is processed by the measuring amplifier and analysed by the µController. The value is continously compared with the internally stored value.

As soon as the measuring value exceeds the limit, the relay is switched off. This is also indicated by an LED.

The switching function can be checked by briefly pressing the button. If the button is pressed for langer than 5 seconds, the current measured value is accepted and stored in the µController as the switch-off value.

The jumper also located on the circuit board is intended for a reset function or bypassing the switch-off threshold.

The VMV-0043 limit value switch is easy to install thanks to its top-hat rail housing.

Programming:

1. Connect the sensor
2. Connect operating voltage
3. Remove reset jumper
4. Apply nominal load / maximum load to the sensor
5. Press and hold the button for approx. 5 seconds
6. Unload the sensor

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Technical Data

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Operating voltage +Ub:	24 V DC ±20 %
Operating temperature:	-15 ... +60 °C
Input resistance:	> 10 MOhm
Current consumption:	max. 100 mA
Sensitivity levels:	> 0,1 mV / V
Hysteresis:	10 mV
Common mode voltage:	max. ±4,5 V
Digital input filter:	approx. 10 Hz
Permissible zero point of the connectable sensor:	+/- 4 mV / V
Connection:	4-wire
Outputs:	Relay with 2 pairs of changeover contacts

Data for connectable sensor:

Us:	5 V DC
Temperature coefficient of Us:	10 ppm / K
Bridge resistance:	≥ 350 Ω
Nominal sensitivity:	0,5 ... 3 mV / V

General information:

Connection:	Srew connection / solder connection
Housing:	Top-hat rail housing (not moulded)
Dimensions (L x B x H):	118 x 58 x 53 mm
Weight:	approx. 100 g

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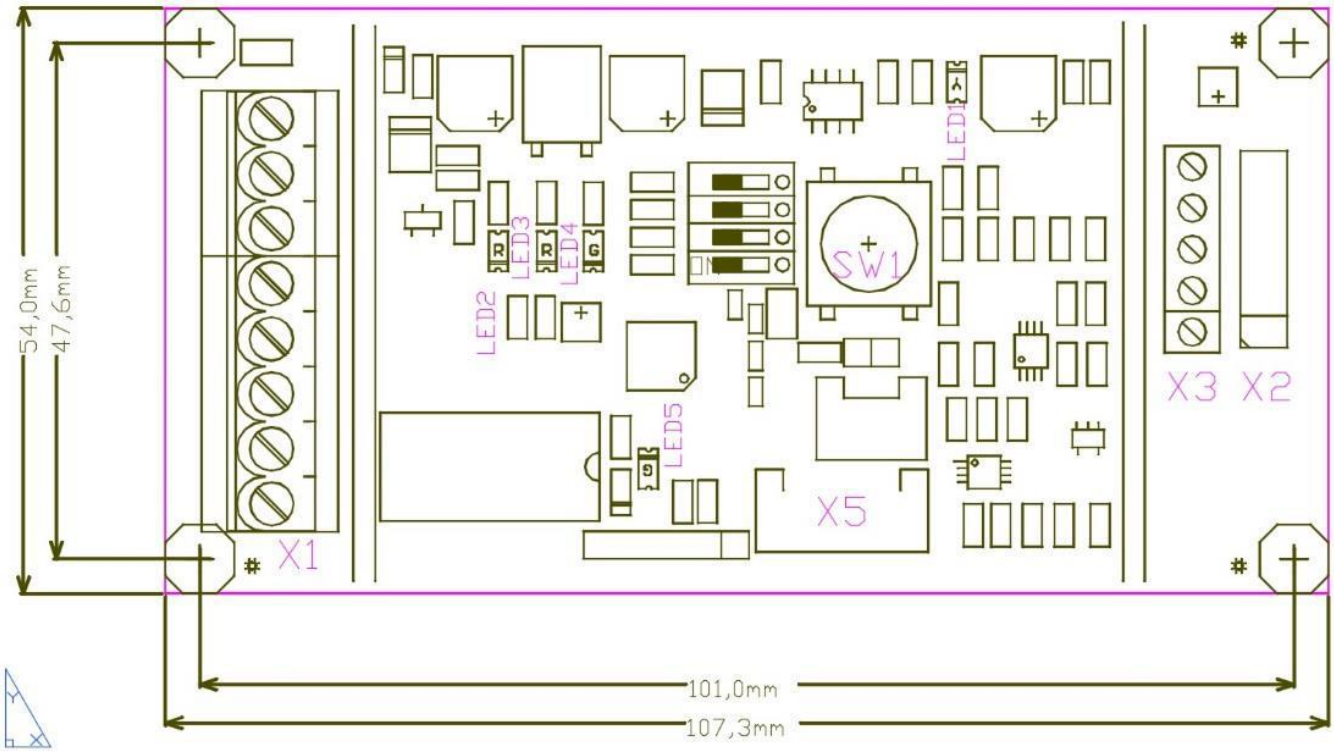
Installation dimensions



Pin-assignment

Connection terminal X1	
Connection	Description
1	+ 24 V DC Power supply
2	- (GND) DC Power supply
3	Normally closed contact 1
4	Middle contact 1
5	Normally open contact 1
6	Normally closed contact 2
7	Middle contact 2
8	Normally open contact 2

Displays and Buttons	
LED 1	Power supply
LED 2	Sensor signal too small – underflow
LED 3	Sensor signal too high + overflow
LED 4	Status display
LED 5	Relay switching function
SW 1	Button (Testing / Programming)

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Connection terminal X3 (X2 Solder connection)		
Connection	Description	Remark
1	B+	Bridge voltage PLUS
2	S-	Signal MINUS
3	S+	Signal PLUS
4	B-	Bridge voltage MINUS
5	SHD	Shield connection cable

Connection terminal X5	
Connection	Description
1	TX
2	RX
3	5 V
4	GND

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